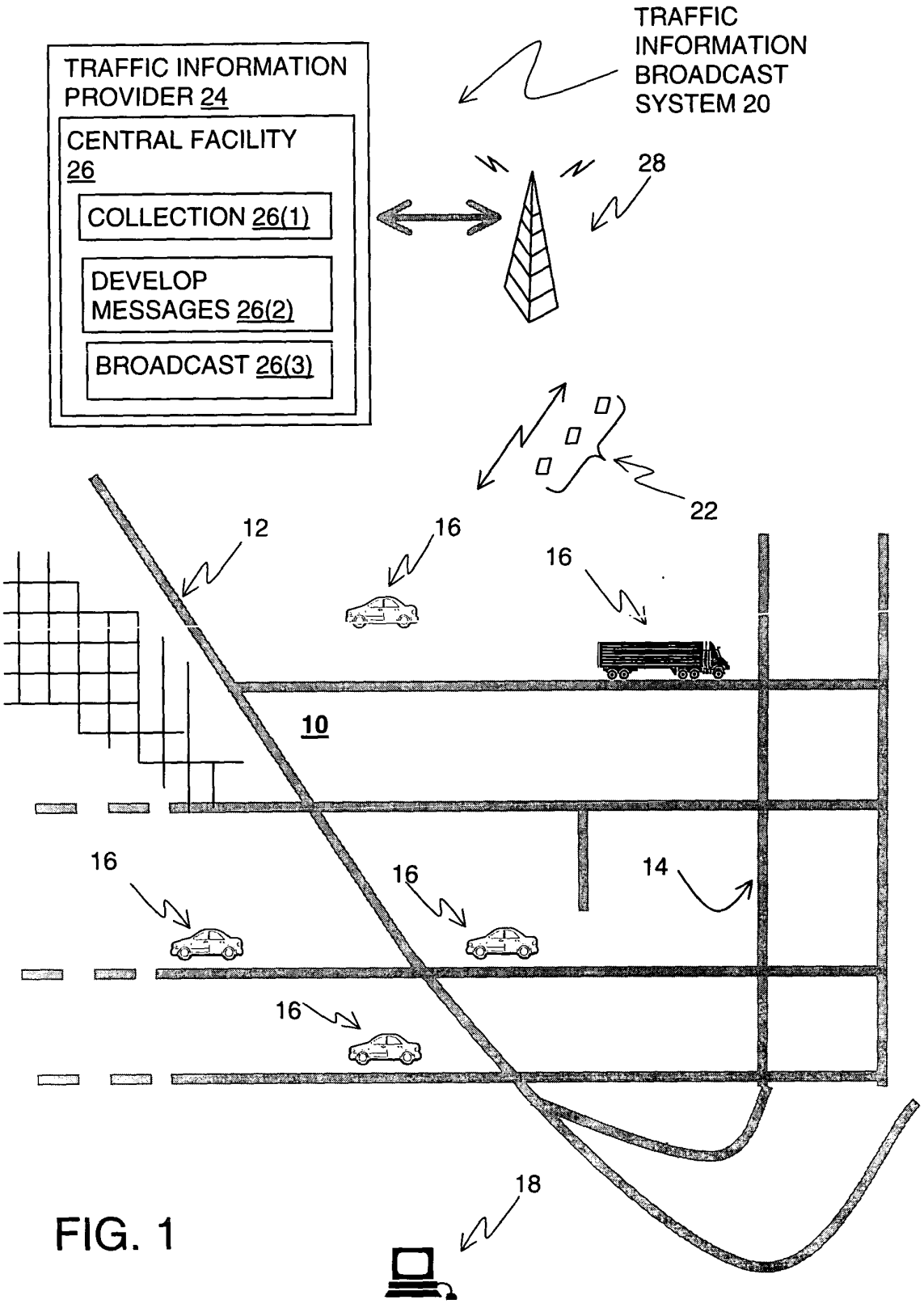

TRAFFIC INFORMATION PROVIDER 24
CENTRAL FACILITY 26
COLLECTION 26(1)
DEVELOP MESSAGES 26(2)
BROADCAST 26(3)
TRAFFIC INFORMATION BROADCAST SYSTEM 20
28
22
12
16
16
10
16
16
14
16
18

FIG. 1

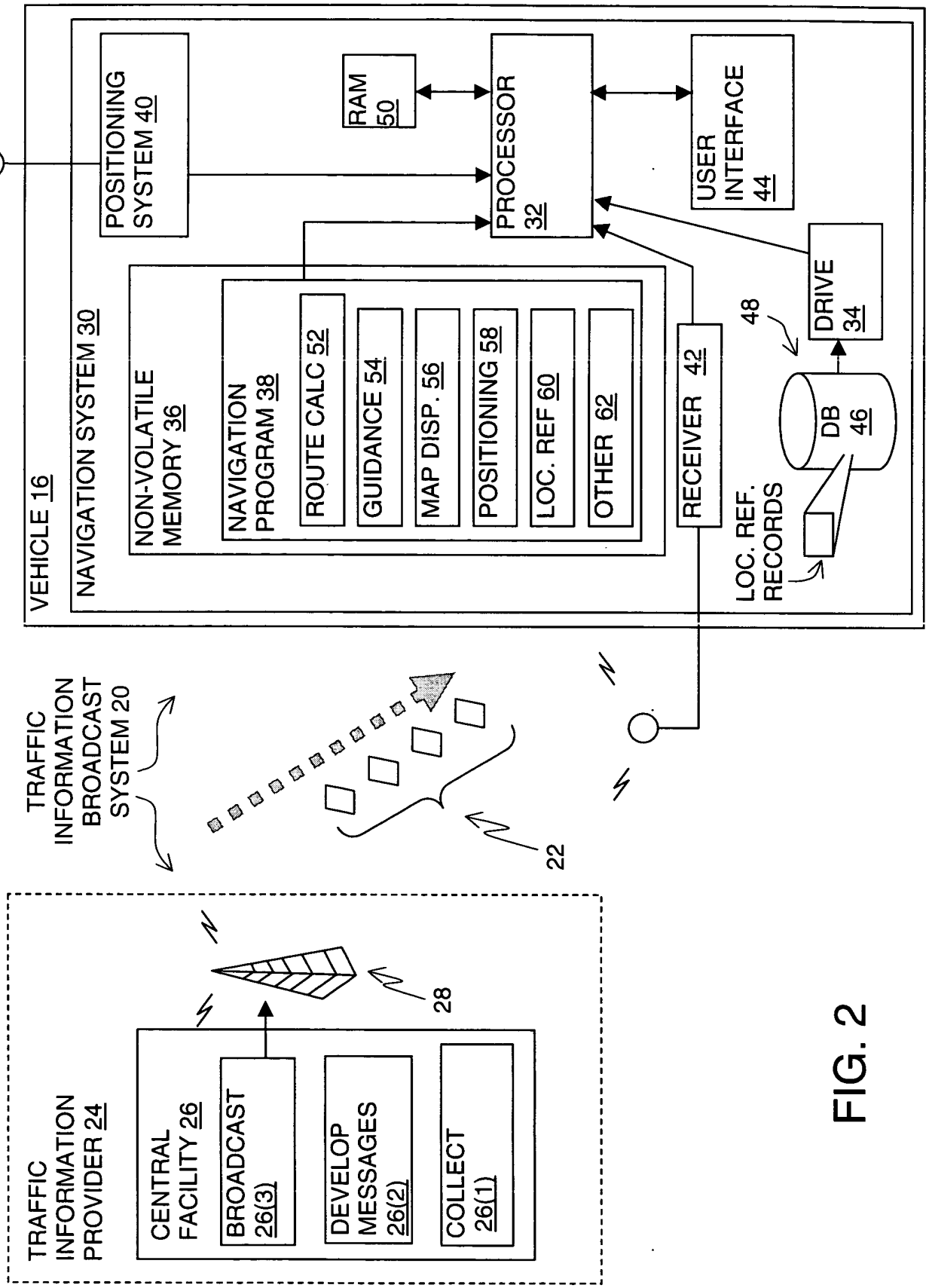

TRAFFIC INFORMATION PROVIDER 24
CENTRAL FACILITY 26
BROADCAST 26(3)
DEVELOP MESSAGES 26(2)
COLLECT 26(1)
28
TRAFFIC INFORMATION BROADCAST SYSTEM 20
22
VEHICLE 16
NAVIGATION SYSTEM 30
POSITIONING SYSTEM 40
RAM 50
PROCESSOR 32
USER INTERFACE 44
NON-VOLATILE MEMORY 36
NAVIGATION PROGRAM 38
ROUTE CALC 52
GUIDANCE 54
MAP DISP. 56
POSITIONING 58
LOC. REF 60
OTHER 62
RECEIVER 42
48
DRIVE 34
DB 46
LOC. REF. RECORDS

FIG. 2

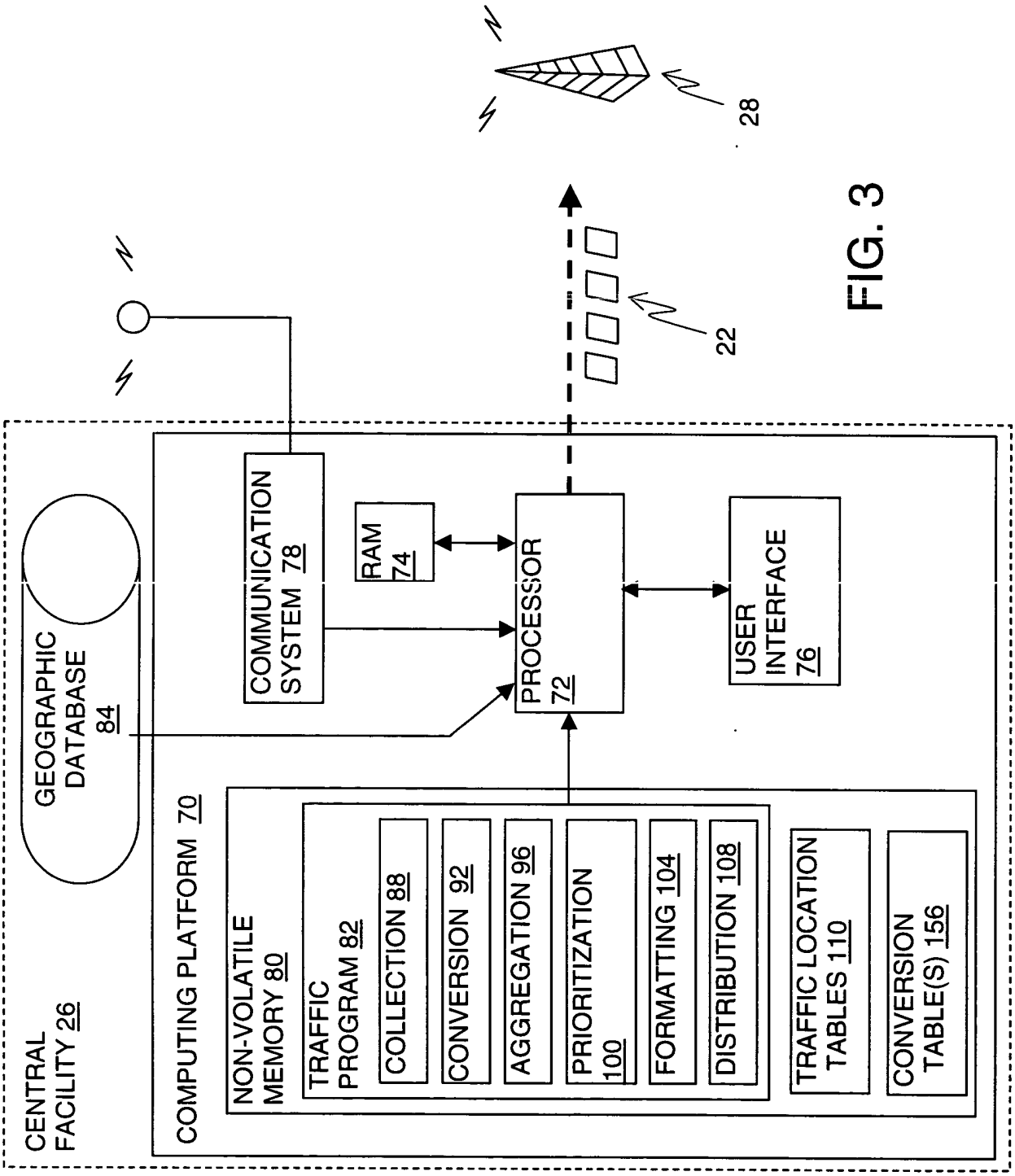

CENTRAL FACILITY 26
COMPUTING PLATFORM 70
NON-VOLATILE MEMORY 80
TRAFFIC PROGRAM 82
COLLECTION 88
CONVERSION 92
AGGREGATION 96
PRIORITIZATION 100
FORMATTING 104
DISTRIBUTION 108
TRAFFIC LOCATION TABLES 110
CONVERSION TABLE(S) 156
GEOGRAPHIC DATABASE 84
COMMUNICATION SYSTEM 78
RAM 74
PROCESSOR 72
USER INTERFACE 76
22
28

FIG. 3

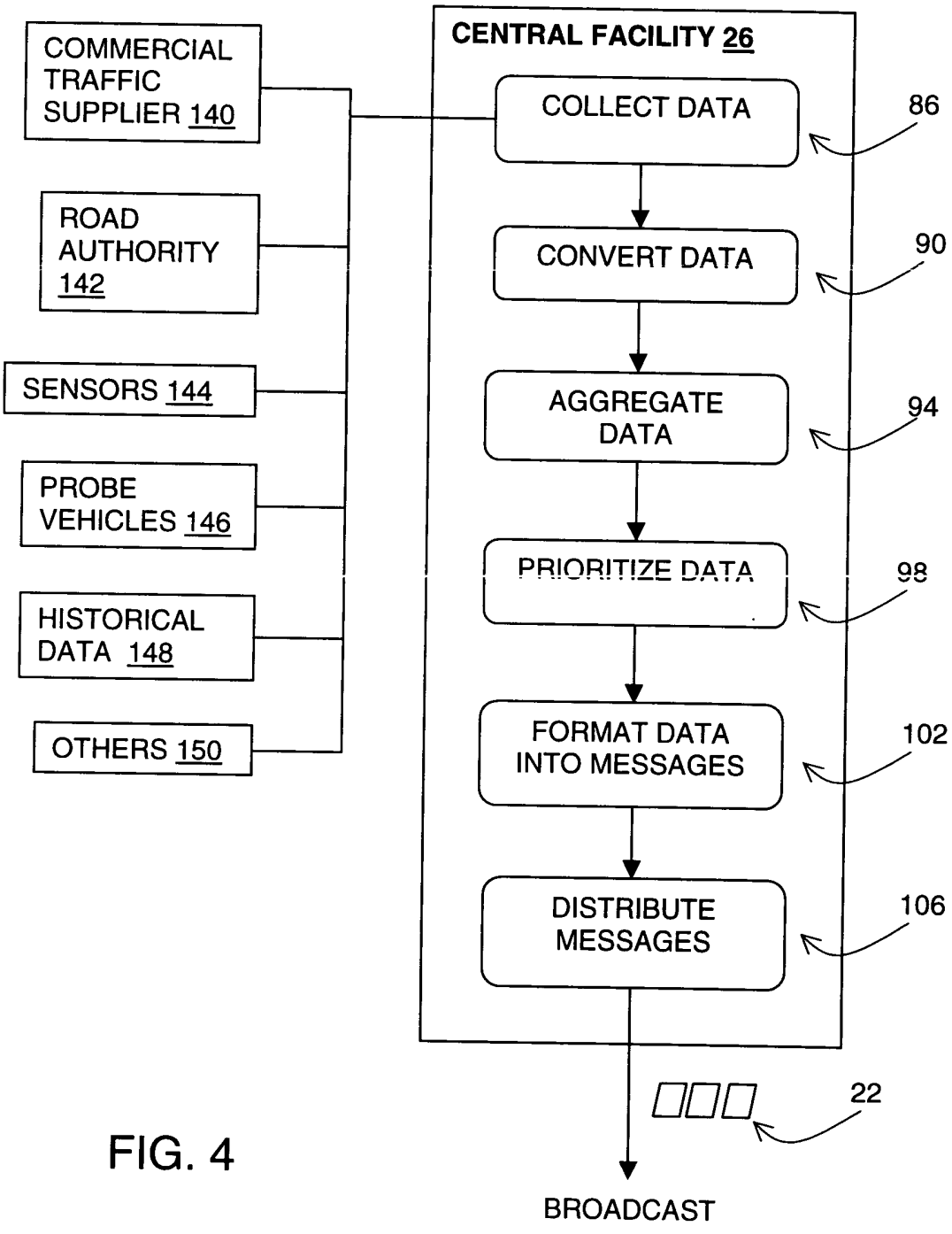
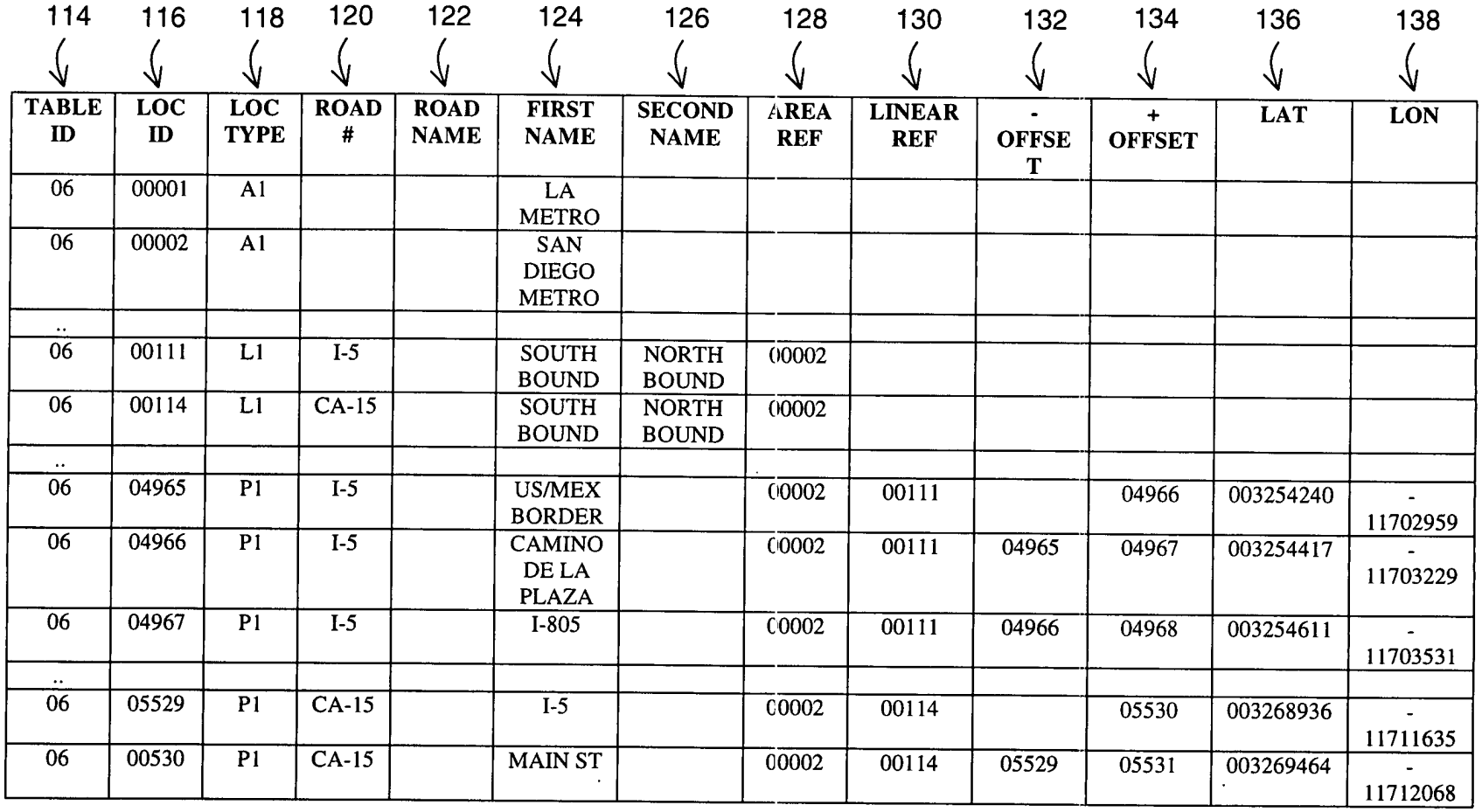

COMMERCIAL TRAFFIC SUPPLIER 140
ROAD AUTHORITY 142
SENSORS 144
PROBE VEHICLES 146
HISTORICAL DATA 148
OTHERS 150
CENTRAL FACILITY 26
COLLECT DATA
86
CONVERT DATA
90
AGGREGATE DATA
94
PRIORITIZE DATA
98
FORMAT DATA INTO MESSAGES
102
DISTRIBUTE MESSAGES
106
22
BROADCAST

FIG. 4



114 TABLE ID	116 LOC ID	118 LOC TYPE	120 ROAD #	122 ROAD NAME	124 FIRST NAME	126 SECOND NAME	128 AREA REF	130 LINEAR REF	132 - OFFSET	134 + OFFSET	136 LAT	138 LON
06	00001	A1			LA METRO							
06	00002	A1			SAN DIEGO METRO							
..												
06	00111	L1	I-5		SOUTH BOUND	NORTH BOUND	00002					
06	00114	L1	CA-15		SOUTH BOUND	NORTH BOUND	00002					
..												
06	04965	P1	I-5		US/MEX BORDER		00002	00111		04966	003254240	-11702959
06	04966	P1	I-5		CAMINO DE LA PLAZA		00002	00111	04965	04967	003254417	-11703229
06	04967	P1	I-5		I-805		00002	00111	04966	04968	003254611	-11703531
..												
06	05529	P1	CA-15		I-5		00002	00114		05530	003268936	-11711635
06	00530	P1	CA-15		MAIN ST		00002	00114	05529	05531	003269464	-11712068

112

FIG. 5

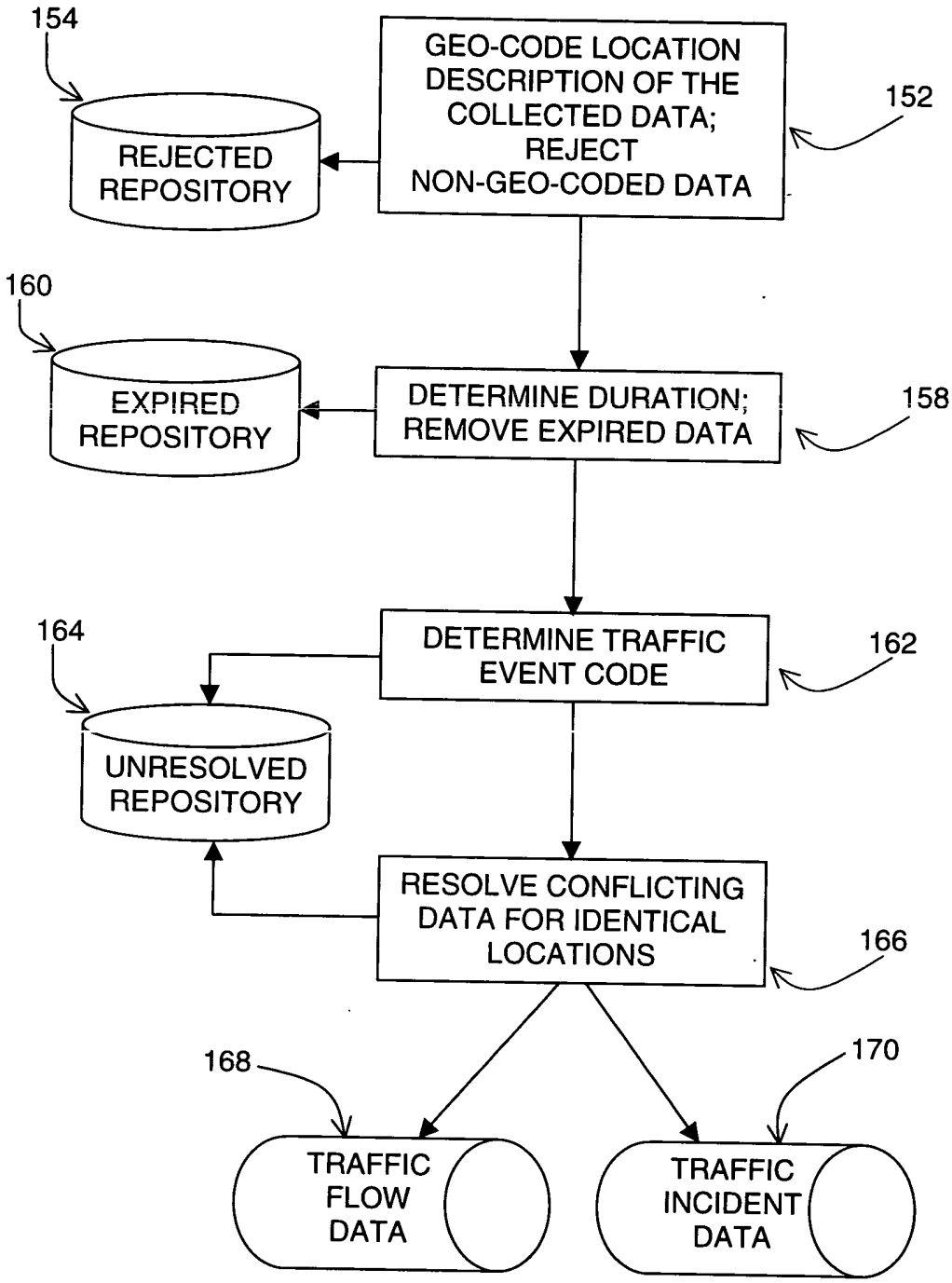

154
GEO-CODE LOCATION DESCRIPTION OF THE COLLECTED DATA; REJECT NON-GEO-CODED DATA
152
REJECTED REPOSITORY
160
EXPIRED REPOSITORY
DETERMINE DURATION; REMOVE EXPIRED DATA
158
164
DETERMINE TRAFFIC EVENT CODE
162
UNRESOLVED REPOSITORY
RESOLVE CONFLICTING DATA FOR IDENTICAL LOCATIONS
166
168
170
TRAFFIC FLOW DATA
TRAFFIC INCIDENT DATA

FIG. 6

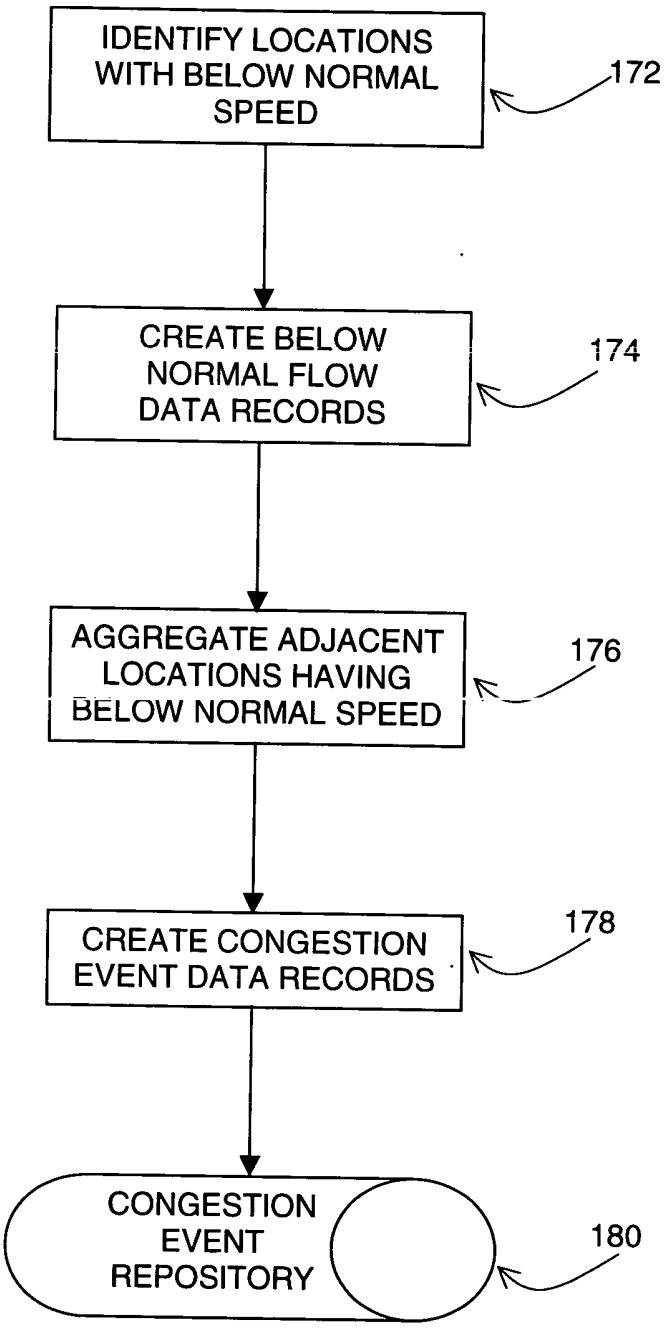
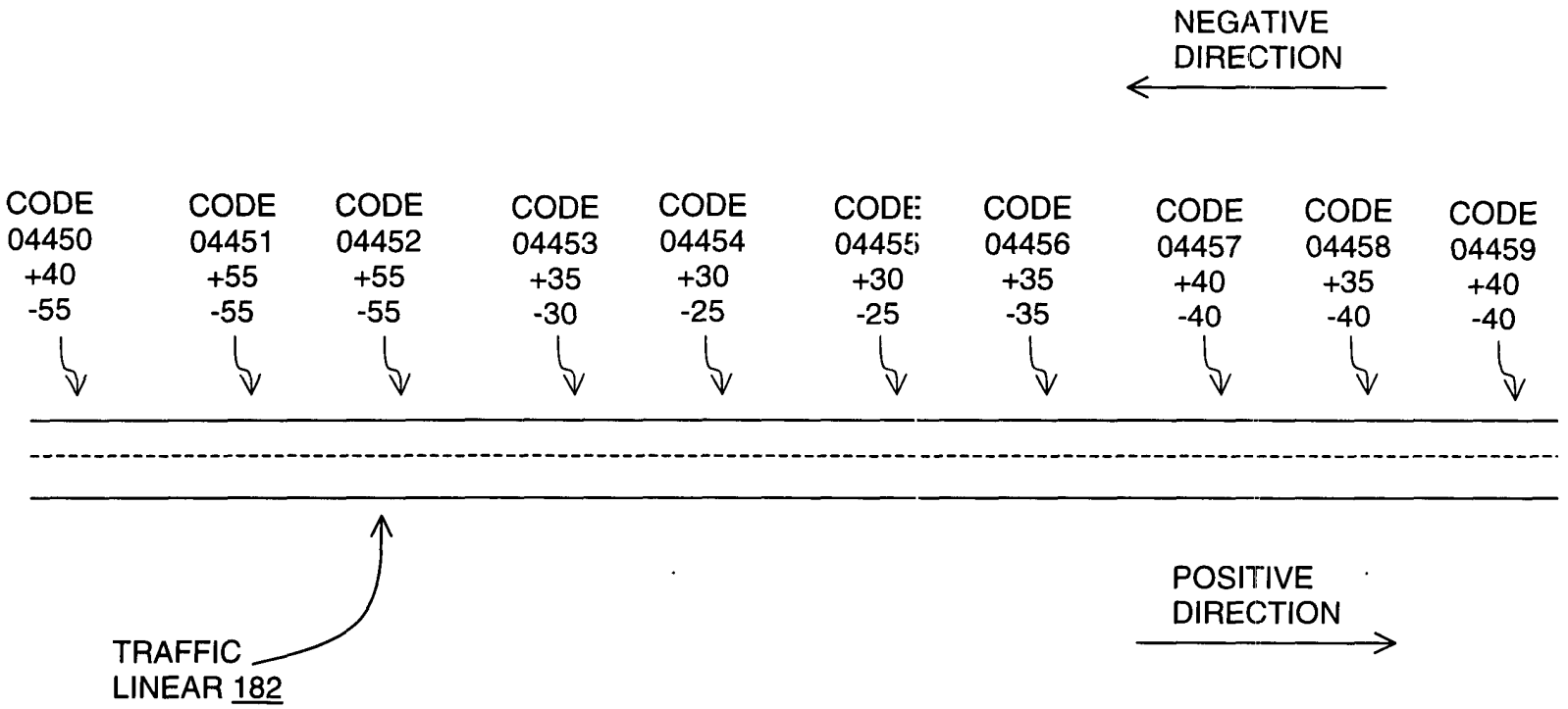

IDENTIFY LOCATIONS WITH BELOW NORMAL SPEED
172
CREATE BELOW NORMAL FLOW DATA RECORDS
174
AGGREGATE ADJACENT LOCATIONS HAVING BELOW NORMAL SPEED
176
CREATE CONGESTION EVENT DATA RECORDS
178
CONGESTION EVENT REPOSITORY
180

FIG. 7

FIG. 8


NEGATIVE DIRECTION
CODE 04450 +40 -55
CODE 04451 +55 -55
CODE 04452 +55 -55
CODE 04453 +35 -30
CODE 04454 +30 -25
CODE 04455 +30 -25
CODE 04456 +35 -35
CODE 04457 +40 -40
CODE 04458 +35 -40
CODE 04459 +40 -40
POSITIVE DIRECTION
TRAFFIC LINEAR 182

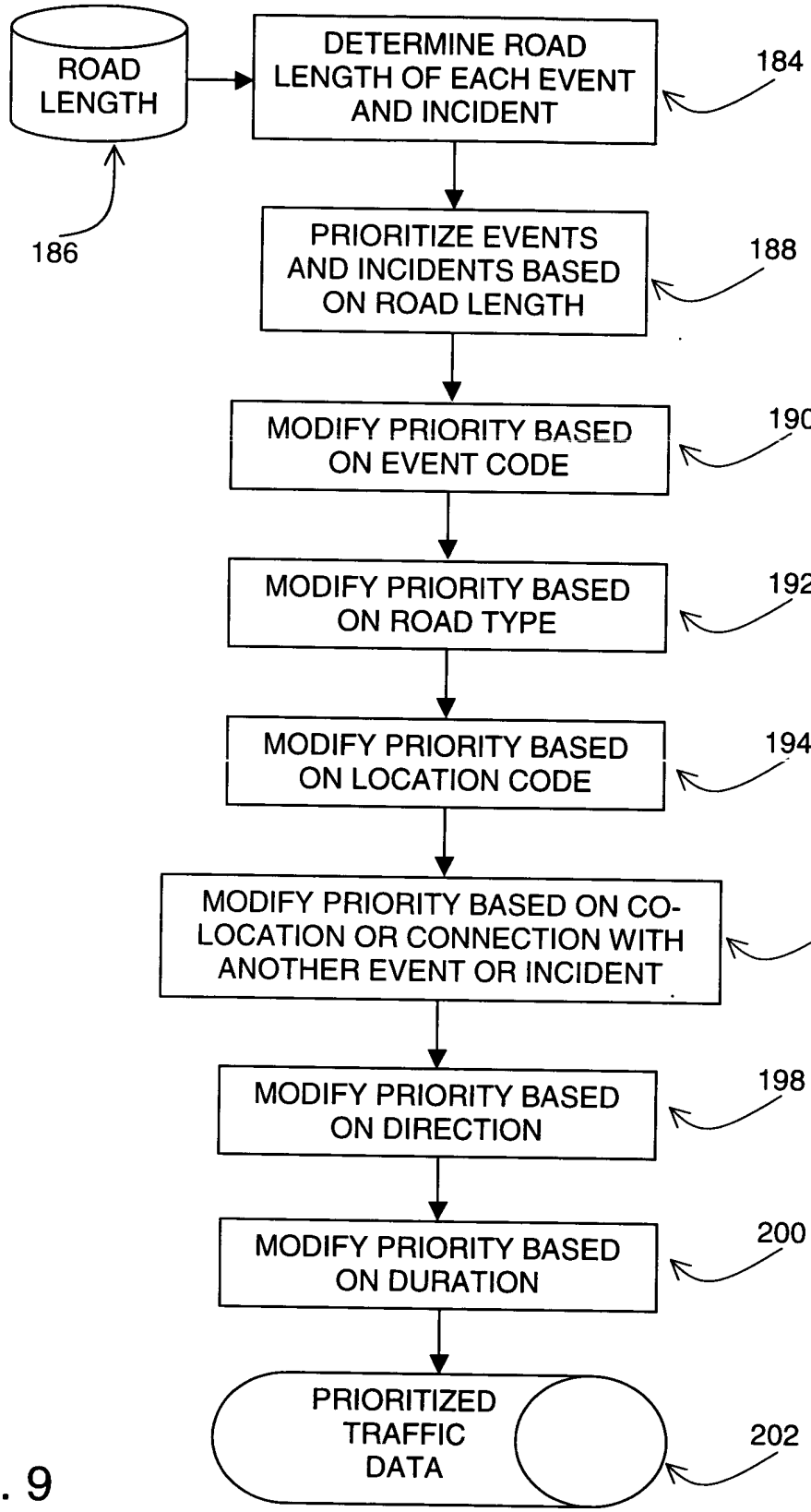

ROAD LENGTH
186
DETERMINE ROAD LENGTH OF EACH EVENT AND INCIDENT
184
PRIORITIZE EVENTS AND INCIDENTS BASED ON ROAD LENGTH
188
MODIFY PRIORITY BASED ON EVENT CODE
190
MODIFY PRIORITY BASED ON ROAD TYPE
192
MODIFY PRIORITY BASED ON LOCATION CODE
194
MODIFY PRIORITY BASED ON CO-LOCATION OR CONNECTION WITH ANOTHER EVENT OR INCIDENT
196
MODIFY PRIORITY BASED ON DIRECTION
198
MODIFY PRIORITY BASED ON DURATION
200
PRIORITIZED TRAFFIC DATA
202

FIG. 9

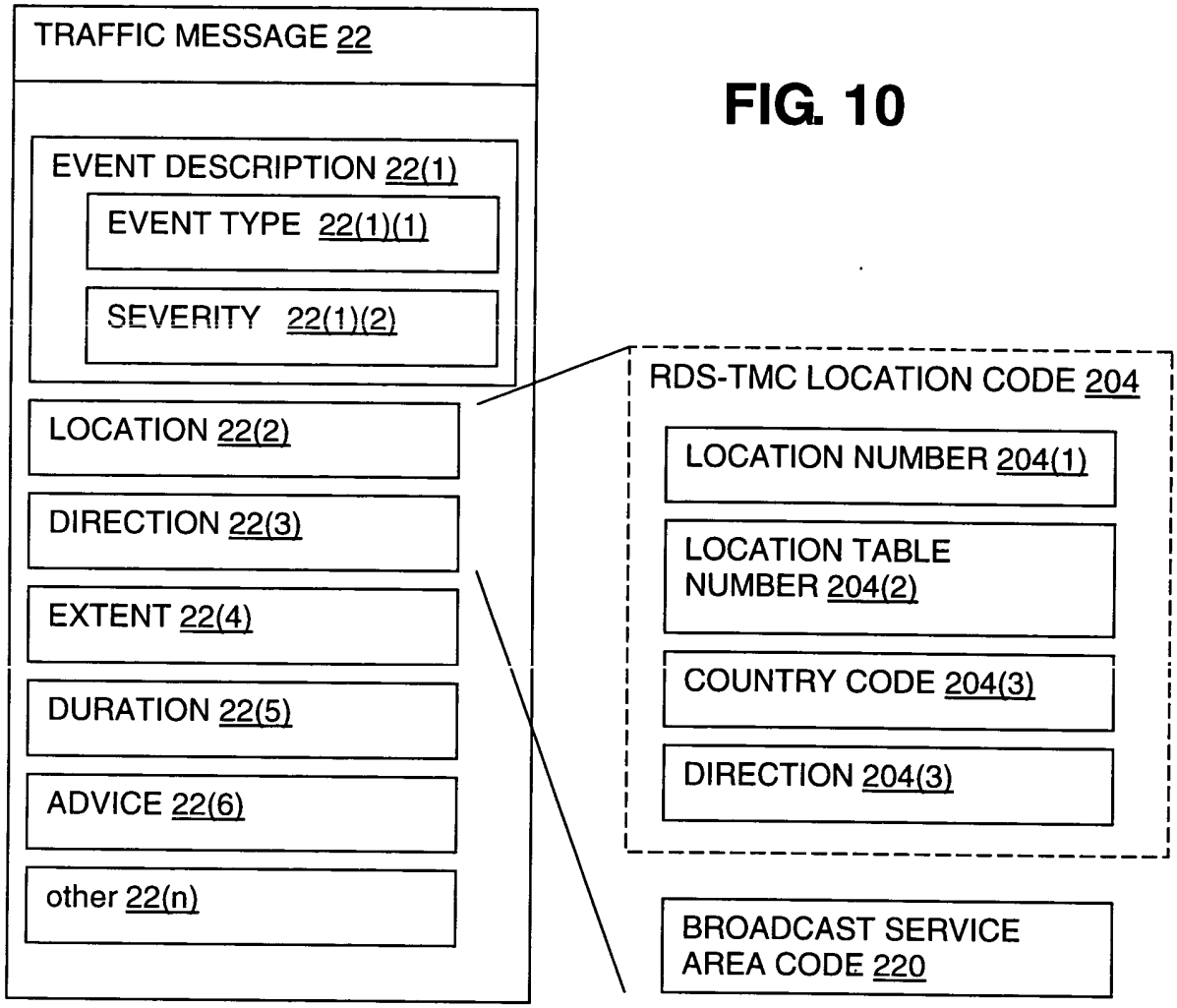

TRAFFIC MESSAGE 22
EVENT DESCRIPTION 22(1)
EVENT TYPE 22(1)(1)
SEVERITY 22(1)(2)
LOCATION 22(2)
DIRECTION 22(3)
EXTENT 22(4)
DURATION 22(5)
ADVICE 22(6)
other 22(n)
RDS-TMC LOCATION CODE 204
LOCATION NUMBER 204(1)
LOCATION TABLE NUMBER 204(2)
COUNTRY CODE 204(3)
DIRECTION 204(3)
BROADCAST SERVICE AREA CODE 220

FIG. 10

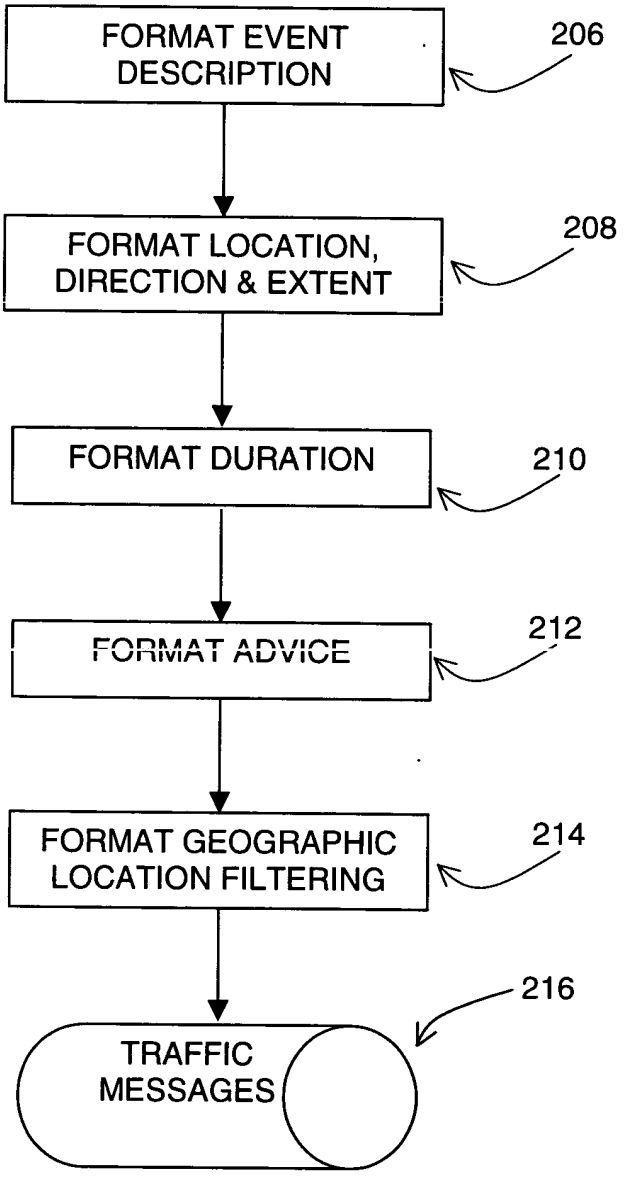

FORMAT EVENT DESCRIPTION
206
FORMAT LOCATION, DIRECTION & EXTENT
208
FORMAT DURATION
210
FORMAT ADVICE
212
FORMAT GEOGRAPHIC LOCATION FILTERING
214
TRAFFIC MESSAGES
216

FIG. 11

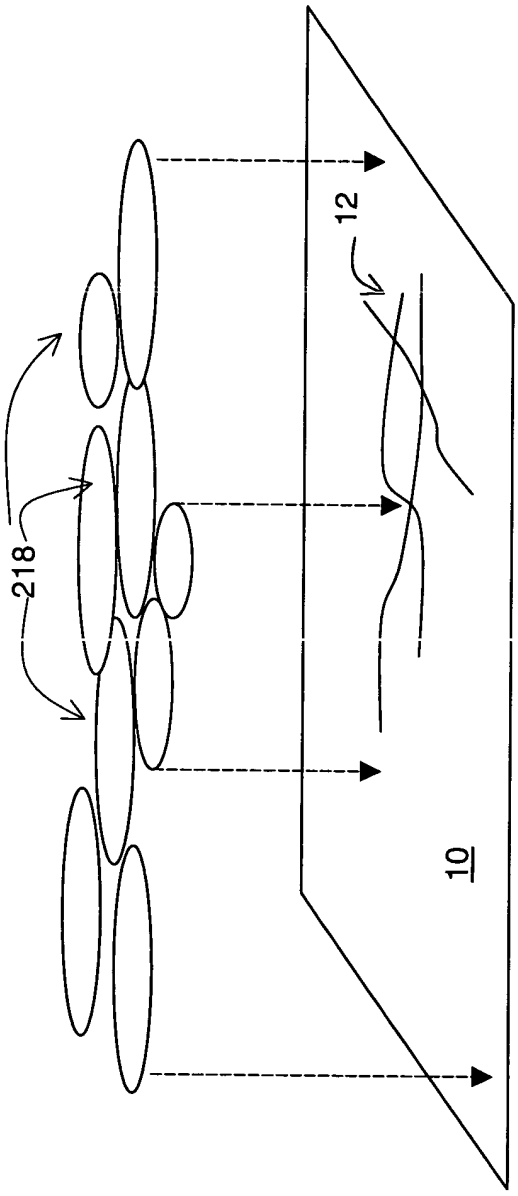


FIG. 12

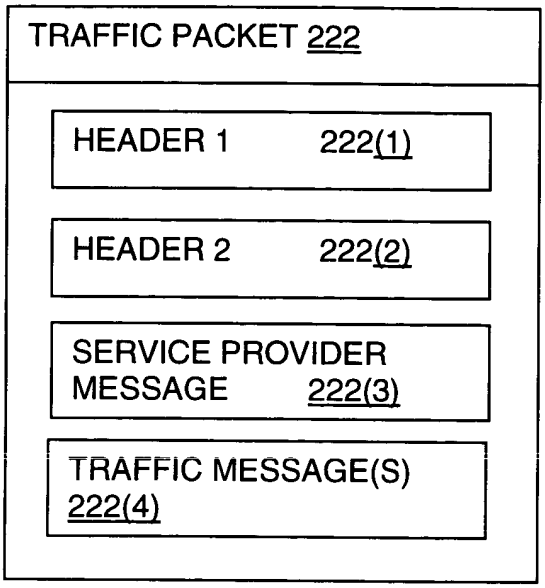


FIG. 13a

SERVICE PROVIDER MESSAGE (ALERT C, 3A MESSAGE) 222(3)		
BYTE	**BITS**	**FIELD**
BYTE 1	7-5	000 - RESERVED
BYTE 1	4	MESSAGE TYPE = 1
BYTE 1	3-0	SERVICE AND TABLE PROVIDER = 1001
BYTE 2	7-2	LOCATION TABLE NUMBER
BYTE 2	1-0	0000 - RESERVED
BYTE 3	7-6	
BYTE 3	5-0	SERVICE PROVIDER ID
BYTE 4	7-0	BROADCAST SERVICE AREA CODE
BYTE 5	7-0	

FIG. 13b

TRAFFIC MESSAGE (ALERT C, 8A MESSAGE) 222(4)		
BYTE	**BITS**	**FIELD**
BYTE 1	7-5	000 - RESERVED
BYTE 1	4	MESSAGE TYPE = 0
BYTE 1	3	SINGLE GROUP MESSAGE = 1
BYTE 1	2-0	DURATION CODE
BYTE 2	7	DIVERSION = 0 (RECOMMEND NO DIVERSION)
BYTE 2	6	DIRECTION (0 = POSITIVE)
BYTE 2	5-3	EXTENT
BYTE 2	2-0	EVENT CODE
BYTE 5	7-0	
BYTE 2	7-0	LOCATION
BYTE 5	7-0	

FIG. 13c